



# ARIZONA DEPARTMENT OF TRANSPORTATION \* MATERIALS SECTION

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## CHANGE LETTER

MATERIALS TESTING MANUAL	CHANGE LETTER NO. 8
<b>SUBJECT:</b> Title Page, Table of Contents, Changes in the Materials Testing Manual, Cover Sheet for Sections 100, 200, 300, 400, 500, 600, 700, and 800. Arizona Test Methods 104a, 105a, 111, 201a, 205b, 211b, 212c, 213a, 222b, 227b, 229a, 233a, 311, 402b, 407c, 408, 409a, 412a, 413, 504, 511, 512, 802e, 805b, 814a, 817a, 822, and Section 900. AASHTO Test Methods T11, T27, T30, T84, T246 and T247.	<b>DATE OF ISSUE:</b> November 1981  <b>EFFECTIVE DATE:</b> November 1981

### REVISIONS TO SECTION 100

1. ARIZ 104a - "Sampling Bituminous Mixtures"

*Revised Sections 2, 3, and 5.*

2. ARIZ 105a - "Sampling Soils and Aggregates"

*Revised all Sections and changed Title.*

3. ARIZ 111 - "Correlation of Sample Test Results"

*This test was deleted by Materials Section Policy and Procedure Directive No. 81-5.*

### REVISIONS TO SECTION 200

1. ARIZ 201a - "Dry Preparation and the Sieving of Coarse & Fine Graded Soils and Aggregates"

*New test which replaces AASHTO T11, T27, and T30.*

2. ARIZ 205b - "Composite Grading"

*Revised all sections, Tables 1, 2, and 3.*

3. ARIZ 211b - "Specific Gravity and Absorption of Fine Aggregate"

*This test is the same as AASHTO T84 except as noted in the test method.*

4. ARIZ 212c - "Gradation and Percentage of Crushed Particles in Cover Material or Mineral Aggregate"

*Revised all sections.*

5. ARIZ 213a - "Specific Gravity and Absorption of Fine Mineral Aggregate for Asphaltic Concrete"

*This test is deleted. ARIZ 211b is to be used in determining specific gravity and absorption for all fine aggregate.*

6. ARIZ 222b - "Rock Correction Procedure for Maximum Density Determination of Cement Treated Mixtures"

*Revised Sections 2 (c), (d), (e), and (f), Sections 3, 4, 5, and Figure 1.*

7. ARIZ 227b - "Rock Correction Procedure for Maximum Density Determination"

*Revised Sections 2 (c), (d), (e), (f), and Figure 1.*

8. ARIZ 229a - "Calibration of Standard Sand and Sand Cone"

*Revised Section 4.*

9. ARIZ 233a - "Flakiness Index of Aggregate"

*Revised all Sections and changed Title.*

#### REVISION TO SECTION 300

1. ARIZ 311 - "Method of Test for Flow of Grout Mixtures (Flow Cone Method)"

*New test which is added.*

#### REVISIONS TO SECTION 400

1. ARIZ 402b - "Bitumen Content of Bituminous Mixtures by Vacuum Extraction"

*Revised entire test method.*

2. ARIZ 407c - "Determination of Bitumen Retained in Bituminous Mixtures"

*Revised Sections 3, 6, and 7.*

3. ARIZ 408 - "Recovery of Asphalt from Extracting Solution"

*This test is deleted and replaced by ARIZ 511.*

4. ARIZ 409a - "Measuring the Weight of Scarified Bituminous Mixtures by Unit Area"

*Revised Sections 2 (b), 3 (a), and 4.*

5. ARIZ 412a - "Density of Compacted Bituminous Mixtures - Nuclear Method"

*New test which is added. Arizona Test Method 412 has*

*been unofficially distributed previously in various tentative and draft formats. All such test methods are to be discarded.*

6. ARIZ 413 - "Extraction of Asphalt from Bituminous Mixtures by Soxhlet Extraction"

*New test which is added.*

#### REVISIONS TO SECTION 500

1. ARIZ 504 - "Vacuum Recovery of Asphalt Emulsion Residue"

*Please correct Section 5 (j) of the current procedure by changing  $115^{\circ} \pm 30^{\circ} \text{ C}$  to  $115^{\circ} \pm 3^{\circ} \text{ C}$ .*

2. ARIZ 511 - "Recovery of Asphalt from Extraction Solution"

*New test which is added.*

3. ARIZ 512 - "Residue by Evaporation"

*New test which is added.*

#### REVISIONS TO SECTION 800

1. ARIZ 802e - "Effect of Water on Cohesion of Compacted Bituminous Mixtures"

*Revised all sections except scope.*

2. ARIZ 805b - "Centrifuge Kerosene Equivalent of Aggregate, Including K-Factor"

*Revised Sections 3, 4, 5, 6, 11, 12, and 13, along with Table II and Figures 5, 6, 7, and 8.*

3. ARIZ 814a - "Design of Asphaltic Concrete Friction Course"

*Revised entire procedure.*

4. ARIZ 817a - "Mix Design Method for Asphaltic Concrete"

*Revised entire procedure and changed title. This test replaces AASHTO T246 and T247.*

5. ARIZ 822 - "Determination of Additive or Asphalt Blend Required for Modification of Asphalt Viscosity"

*New test which is added.*

#### SECTION 900

1. Sampling Guide Schedule

*This new section which is added to the testing manual supercedes the "Arizona Highway Department 1973 Sampling Guide Schedule" in its entirety and all other previous Sampling Guide Schedules and Directives.*

REVISIONS TO COVER SHEETS

1. Please remove and discard the following cover sheets:

*Sections 100, 200, 300, 400, 500, 600, 700, and 800. New Cover Sheets for Sections 100, 200, 300, 400, 500, 600, and 700 dated November 1981 are included in this change letter.*

2. The following note has been added to each Section cover sheet in regards to AASHTO and ASTM Test Method Designations:

*"The operator shall have the responsibility to assure that the current AASHTO and ASTM Test Methods (as indicated by revision or interim method) are being adhered to, unless otherwise specified."*

DELETED ITEMS FROM TESTING MANUAL

1. Arizona Test Methods 104, 105, 111, 205a, 212b, 213a, 222a, 227a, 229, 233, 402a, 407b, 408, 409, 802d, 805a, 814, and 817.

*Please remove these test methods from the manual.*

2. AASHTO Test Methods T11, T27, T30, T84, T246, and T247 have been replaced by Arizona Test Methods.

*These AASHTO Test Methods have been deleted from the respective section cover sheet.*

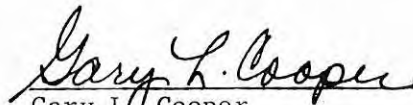
3. Title Page, Table of Contents (July 1980) and Changes in the Testing Manual (March 1980).

*These previously issued items are to be removed from the manual and replaced with the corresponding attached pages.*

ATTACHMENTS

1. The following items, necessary to make revisions as listed in this change letter, are attached:

*Title Page, Table of Contents, Changes in the Materials Testing Manual, Cover Sheets for Sections 100, 200, 300, 400, 500, 600, and 700. Arizona Test Methods 104a, 105a, 201a, 205b, 211b, 212c, 222b, 227b, 229a, 233a, 311, 402b, 407c, 409a, 412a, 413, 511, 512, 802e, 805b, 814a, 817a, 822, and Section 900.*



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